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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/10/2001

W. Monty Reichert

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05/18/2006

EXAMINER

RAMILLANO, LORE JANET

TRASK BRITT

P.O. BOX 2550

SALT LAKE CITY, UT 84110

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/973,557		REICHERT ET AL.	
	Examiner		Art Unit	
	Lore Ramillano		1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) 26-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-63 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/3/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. In applicant's preliminary amendment filed on 2/27/02, applicant amended claims 1, 2, 11, 12, 18, 20, 22, 26, 30, 41, 42, 48, 52, 55, 56, and 59. In applicant's response filed on 7/26/04, applicant elected Group I, claims 1-51, and claims 52-63 were withdrawn from consideration. In applicant's response filed on 11/22/04, applicant elected Group 1, claims 1-25, and claims 26-51 were withdrawn from consideration. In applicant's response filed on 12/12/05, applicant amended claim 1. In applicant's response filed on 3/6/06, applicant amended claim 1.

Election/Restrictions

2. Applicant's election with traverse of Group 1, claims 1-25, in the reply filed on 3/6/06 is acknowledged. The traversal is on the ground(s) that the claims of Group I and Group II are directed to the same subject matter. This is not found persuasive due to the reasons set forth in examiner's office action (p. 2) filed on 3/14/05. Thus, the requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected because it is unclear how the first and second surface are separated by a thickness? What do you mean by a thickness? A thick layer is positioned between the first and second surfaces?

Claim Interpretation

As to claim(s) 1, 4, 5, 8, 9, 24, and 25, which contain functional and/or intended use terms, the Examiner will interpret these claims in light of the structural elements that are disclosed and not for their intended or functional use as stated after the terms "for," "to/that direct(s)," "to collect," "that focuses," "that focuses," "that diffracts," "to evanescently," and "capable of." It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

The Examiner has applied references, which are capable of meeting these functions. A structure, which is capable of providing the intended use, is considered to meet the limitation of intended use recited in a claim to a device or an apparatus.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1-3, 5-7, 14-16, 19 and 21** are rejected under 35 U.S.C. 102(b) as being anticipated by Attridge ("Attridge '095," US 5132095).

Attridge '095 disclose an apparatus comprising a waveguide (column 2, line 59), capture molecules that are of a plurality of different types (Table 1), a light source (column 4, line 31), and a light detection device (column 4, line 38).

The waveguide comprises: (1) a substrate, which comprises a first optical material made of magnesium fluoride (column 7, line 4) and has a refractive index n_1 , a first planar surface, and an opposite second surface, and has a thickness of at least about 10 μm (column 7, line 60-65); (2) a waveguide film, which comprises a second optical material made of silicon dioxide (column 7, line 4) and is positioned on the first planar surface that has a refractive index n_2 that is greater than refractive index n_1 (column 2, line 51 to column 3, line 35); and (3) a sample reservoir, which contains a sample solution comprising a plurality of molecules of a selected analyte (column 6, lines 17- 18).

Attridge '095 further disclose an input waveguide that comprises an optical material that has a refractive index n_3 and a thickness between about 0.5 mm and about 5mm (column 3, lines 24-35); and a diffraction grating that is formed

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into the waveguide film at an upper surface in one instance and formed into at a surface of the waveguide film adjacent to the first planar surface (column 7, lines 46-59).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of

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35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. **Claims 4, 8-13, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Attridge '095 in view of Attridge ("Attridge '784," US 5334784).

Attridge '095 does not specifically disclose a laser; a waveguide having a thickness of at least about 0.1 μm (column 7, lines 5-39); a prism; and a (3) waveguide coupler.

Attridge '784 discloses a laser (column 7, line 60); a waveguide having a thickness of at least about 0.1 μm (column 7, lines 5-39); a prism; and a (3) waveguide coupler (column 5, line 38; column 7, Example 1).

Attridge '095 and Attridge '784 are analogous art because they are from the same field of endeavor, which are inventions involving optical waveguides. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Attridge '095 with the limitations of Attridge '784, as stated above, because having a particular waveguide thickness will enable the waveguide layer to be suitable for propagation of guided transverse magnetic and/or transverse elected modes (column 4, lines 17-42), and having a prism or waveguide coupler will enable the apparatus of Attridge '095 to be suitable to produce total internal reflection within the optical structure and to detect the emergent fluorescence radiation (column 5, lines 27-33).

12. **Claims 18, 20, and 22-25** are rejected under 35 U.S.C. 103(a) as being obvious over Attridge '095 in view of Herron et al. (US 5512492).

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The applied reference has a common inventor, James N. Herron, with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Attridge '515 does not specifically disclose a charge-coupled device; and tracer molecules that are positioned at discrete locations and arranged in an array.

Herron et al. disclose a charge-coupled device (Fig. 4B), and tracer molecules that are positioned at discrete locations and arranged in an array (column 3, lines 26-61).

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Attridge '095 and Herron are analogous art because they are from the same field of endeavor, which are inventions involving optical waveguides. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Attridge '095 with the limitations of Herron, as stated above, because having multi-sample capability would allow a test sample and a control sample to be simultaneously illuminated and measured, which would speed up the process of analyzing multiple samples (column 2, lines 1-9).


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lore Ramillano whose telephone number is (571) 272-7420. The examiner can normally be reached on Mon. to Fri. 8:30a to 5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lore Ramillano
Examiner
Art Unit 1743


Jill Warden
Supervisory Patent Examiner
Technology Center 1700